

Landon Hering

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EXPERIENCE

TOMAS PALACIOS GROUP | UNDERGRADUATE RESEARCHER

Dec 2024 – May 2025 | Cambridge, MA

- Developed full-stack applications including a QR code generator, QR code reader, and structured database to encode position at microscopic scales on silicon wafers.
- Utilized a dynamic SQL-based database to sort and display sample images based on embedded QR codes.

EVOLVE BGS | SOFTWARE ENGINEERING INTERN

Jun 2025 - Aug 2025 | Cape Town, SA

- Built tools to analyze logger data from a PostgreSQL database for a virtual power plant start-up.
- Implemented noise reduction, fitted optimal solar curves, and organized incoming data on the back end.

BODNER GROUP | UNDEGRADUATE RESEARCHER

Jan 2026 - current | Cambridge, MA

- Working on using diffusion models to model ocean currents and turbulence between gaps in satellite data

PROJECTS

FPGA-BASED 3D POINT CLOUD VISUALIZATION SYSTEM

Oct 2025 - Dec 2025

- Developed a real-time 3D point cloud generation system on FPGA, integrating LiDAR sensors and rendering modules for live visualization using Verilog.
- Implemented a dual framebuffer, point storage module, and point projection module, utilizing DRAM for the framebuffer and point storage. Testbenched all modules using cocotb.

4-STAGE PROCESSOR INDEPENDENT CLASS PROJECT

Feb 2025 – May 2025

- Created a 4-stage RISC-V fully pipelined processor described in Minispec (hardware description language).
- Divided into fetch, decode, execute, and writeback stages with full bypassing including branch prediction.
- Integrated instruction and data caches for performance.

GENERATIVE MUSIC MODEL Aug 2025

- Created a transformer-based generative music model using PyTorch.
- Generates music based on a piano seed input

MALLOC IMPLEMENTATION Apr 2024

- Implemented a memory allocator to correctly allocate/free memory
- Used blocks storing size, state, and next/previous block pointers for an arbitrary-sized heap.

MONTE-CARLO BASED WINNING POKERBOT Jan 2026

- Created a PokerBot that placed 2nd overall in MIT PokerBots
- Utilized monte-carlo simulations, ranges, equity calculations, and game theory to make complex GTO decisions

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

B.S. IN COMPUTER SCIENCE AND ENGINEERING

Expected May 2028 | Cambridge, MA
Cross-country and track student athlete
Tech Catholic Community Member
Cum. GPA: 5.0 / 5.0

UNIVERSITY OF MINNESOTA - TWIN CITIES

Aug 2023 - May 2024 | Minneapolis, MN

Dean's List (All Semesters)
Cum. GPA: 4.0 / 4.0

SKILLS

PROGRAMMING

Python • C/C++ • Java • Git • Linux/Unix CLI • HTML/CSS
React • JavaScript • SQL • Bash

HARDWARE + SYSTEMS

Bluespec • Verilog • cocotb

TOOLS FRAMEWORKS

Git • VS Code • Docker • Postgres • Pandas • NumPy

COURSEWORK

MIT - PAST

Electrical Circuits
Algorithms
Computation Structures
Fundamentals of Programming
Digital Systems Laboratory (FPGA)
Machine Learning

MIT - CURRENT (SPRING 2026)

Computer vision
Design and analysis of Algorithms
Computer Systems Engineering
Real Analysis

UNDERGRADUATE - UMN

Machine Architecture and Organization
Linear Algebra and Diff Eqs

LINKS

Github:// [Landododo](#)
LinkedIn:// [Landon Hering](#)
<https://landododo.github.io>